ducts providing substantial increase of thrust under takeoff condition.
The location of thrust bypass engines inside the body of the aircraft permit to create afterburners for the by-pass ducts providing substantial increase of thrust under takeoff condition.
The power units and the auxiliary engines operate under all flight conditions, the flying vehicles "EKIP" have no unnecessary complicated elements like the wheel landing gear, the failure whereof is currently the cause of 70 % of accidents. The deviation of flat nozzles ensures pitch control. The gas power jets of flat nozzles are more quickly damped in the environment, which results in decreased noise in the regions surrounding the runways.

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To ensure directional and roll control at low speeds of flight pulse control engines are mounted on wing tips, using the main fuel (and natural gas) and compressed air taken from main power units.
The flying vehicles "EKIP" ensure elevated level of flight safety. When (all) power units are de-energized the flying vehicle may perform a safe landing on the ground or water surfaces. In order that the auxiliary engines become disconnected it is necessary that all (minimum four) gas generators fail. This is hardly probable. In case even one gas generator is in operation

it should be transferred to the maximum power mode, thus the steady airflow around the body of the vehicle is ensured and the landing is safe even in case ,of failure of power units.

The basic design feature of flying vehicles "EKIP" is the new vortex control system (UPS) of the airflow in the boundary layer mounted on the stern surface of the aircraft. This system ensures steady airflow around the body of the vehicles and decreases its drag by creating a set of aggregate of consecutive cross vortex. The vortex boundary layer airflow control system is patented in Russia and abroad in Europe, USA and Canada. It allows at low level of power consumption (6-8 % of the thrust of power engines) to ensure steady airflow around the vehicle body during the cruising flight and during takeoff and landing at angle of attack up to 40°. With the use of the vortex boundary layer airflow control system and the control engines the flying vehicles "EKIP" may perform a "bird landing" at high glide slope at landing speed decreased down to 100 km/h.

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